REMARKS/ARGUMENTS

Reconsideration and allowance are respectfully requested. The Examiner is requested to enter this amendment as it is directly responsive to the present objection and will not require further search.

I. Status of the Claims

Claim 2 has been amended to place the recited families in italics as required by the Examiner. No new subject matter has been added.

II. Objection to the Claims

The Examiner has objected to claim 2 because families were not italicized. Claim 2 has been corrected accordingly. Therefore, this objection should be withdrawn in its entirety.

III. Rejection under 35 US.C. §103(a)

Claims 1-3 and 7 stand rejected under 35 US.C. §103(a) as unpatentable over Kistner et al., Developments in Biological Standardization (1999); Wang et al., Bioprocess Engineering (1999); and Kobatake et al., Biotechnology Techniques (1999). Kistner et al. is cited as disclosing producing influenza viruses in Vero cells attached to a microcarrier containing denatured collagen (a natural cell binding protein, as evidenced by Wang et al.). The Examiner agrees that collagen is an animal protein but contends that denatured collagen is structurally distinct from naturally occurring collagen. Therefore, the former is not of animal origin. The Examiner adds that Kistner et al. does not disclose an auxiliary amino acid sequence as part of the polypeptide (P0 which aids in thermal stability. Kobatake et al. is added as disclosing how to introduce specific amino acid residues into a cell attachment protein.

The rejection is respectfully traversed, and reconsideration is requested.

First, the Examiner has misunderstood the definition of "free form animal-origin components" of the present application. It reads "free form components originated from homiothermic [sic] animals, in particular animals such as mammals, (for example, humans, cattle, pig, dog, rabbit, cat and the like), birds, and fishes." Denatured animal collagen is originated from animals. Despite the fact that its structure is altered by denaturing, it is still of animal origin. The Examiner cannot simply decree the opposite, as the Examiner's interpretation vitiates the use of the word "originated" in Applicants' definition.

The Examiner has also focused exclusively on the first step of the presently claimed process and has ignored the following two: culturing the adhesive cells in a medium free from animal-origin components, and subculturing the cultured adhesive cells using a cell dispersing agent free from animal-origin components. The second claimed step requires an animal-origin component free medium, and the third claimed step requires an animal-origin component free cell dispersing agent.

Neither animal-origin component free medium or dispersing agents are disclosed in Kistner et al. Rather, Kistner et al. employs porcine trypsin, which is clearly of animal origin. *See* Kistner et al., 4th line up from the bottom of the paragraph headed "Growth of influenza virus in Vero cells," p. 102; *see also* l. 4, paragraph headed "Large-scale production of influenza virus in microcarrier fermenter culture," p. 103 which uses "trypsinized, referring back to the porcine trypsin discussed above. Kobatake et al.does not cure this deficiency in Kistner et al. Accordingly, its combination with Kistner et al. fails to obviate the presently claimed invention.

Comparative Examples 3 and 6 of the present application disclose using dextran beads without denatured pig collagen (Cytodex3) which was used in Kistner et al. Comparative Examples 2 and 5 of the present application used dextran beads without denatured pig collagen. Table 1 of the present specification shows that the sample from Comparative Example 3 (sample 3) when compared with sample 2 which was form Comparative Example 2 did not give high ELISAA or HA values. Comparative Example 3 was inferior to Comparative Example 2. The HA value of

Comparative Example 6 was similar to that of Comparative Example 5; *see* specification, paras. [0123], [0124]. This leads to the conclusion that the method in Kistner et al. does not increase virus production efficiency in comparison to methods without denatured collagen and does not give the advantages of the presently claimed invention. One would not substitute a true animal-origin free component for denatured collagen. Therefore, one would not have modified anything as presently claimed. Nor is there any disclosure that thermal resistance of the adhesive protein could contribute to the productivity of the virus. The presently claimed invention displays clear advantages that are not found in the prior art references alone or in combination.

Accordingly, the cited references cannot be relied upon to reject the pending claims, and the rejection should be withdrawn.

V. Conclusion

It is believed, for the foregoing reasons, that the presently pending claims warrant allowance, and such action is earnestly solicited.

If the Examiner believes there are further issues that could be advanced by an interview, a Supplemental Amendment or entry of an Examiner's Amendment, the Examiner is invited to contact the undersigned attorney.

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Respectfully submitted,

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